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EXAMINER	
LERNER, MARTIN	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/040,653	Applicant(s) CASCONE ET AL.	
	Examiner Martin Lerner	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 22 June 2005.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 to 50 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 6 to 8 is/are allowed.

6)☐ Claim(s) 1 to 5 and 9 to 50 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 to 4, 9 to 18, 21 to 26, and 28 to 50 are rejected under 35 U.S.C. 102(b) as being anticipated by *Severson et al. ('431)*.

Regarding independent claim 1, *Severson et al. ('431)* discloses a method of synthesizing sound, comprising:

"generating a plurality of different kinds of simpler sound events with repetitive occurrences of each kind" – a 32-second segment of a continuous sound record is broken into a number (say 4) of equal segments; the segments can be played back as: {1, 2, 3, 4, 1, 2, 3, 4 . . . , etc.} (column 4, line 64 to column 5, line 12);

"establishing respective random time distributions for the occurrences of at least some of said kinds of sounds" – a Random Sequenced Sound (RSS) might choose to have the next segment to be played from a Uniform distribution, with an equal number of 1's, 2's, 3', and 4's in a random sequence; or RSS might choose the segments from a Weighted Uniform distribution that might play as {1, 4, 1, 1, 3, 1, 1, 2, 2, 1, 1, 1 . . . etc.} (column 5, lines 13 to 30);

"combining said simpler sound events into said complex sound" – Random Sequenced Sound is generated by selecting, playing, and repeating sound segments (column 2, lines 59 to 67).

Regarding independent claim 35, *Severson et al. ('431)* discloses a method of synthesizing sound, comprising:

"generating a succession of simpler sound events that are distributed in time with a random time distribution" – a 32-second segment of a continuous sound record is broken into a number (say 4) of equal segments; the segments can be played back as: {1, 2, 3, 4, 1, 2, 3, 4 . . . , etc.} (column 4, line 64 to column 5, line 12); a Random Sequenced Sound (RSS) might choose to have the next segment to be played from a Uniform distribution, with an equal number of 1's, 2's, 3', and 4's in a random sequence as {1, 3, 2, 4, 2, 2, 2, 4, 1, 3 . . . etc.}; or RSS might choose the segments from a Weighted Uniform distribution that might play as {1, 4, 1, 1, 3, 1, 1, 2, 2, 1, 1, 1 . . . etc.} (column 5, lines 13 to 30);

"controlling said simpler sound events in accordance with one or more sound event parameters" – memory 403 contains sound records and programming for performing functions of sound record selection based on an overall "story line" that defines the theme to be played out; a software language allows for definitions of instructions for the Random Sequenced Sound (RSS) programs (column 12, lines 54 to 67); a line of program code may be "002 PlayRecord (Random3, 12)" where "Random3"

indicates the kind of probability function that is used on "Group 12" recordings (column 13, lines 8 to 13);

"selecting the values of said sound event parameters in accordance with respective input parameters having random distributions" – each distribution would have a set of arguments to define its characteristics; for instance, a Gaussian distribution would be defined by its mean and standard deviation; kinds of probability functions are 1. Gaussian, 2. chi-squared, 3. uniform etc. (column 13, line 8 to 21).

Regarding independent claim 49, *Severson et al. ('431)* discloses a method of synthesizing sound, comprising:

"generating a plurality of different kinds of simpler sound events that are distributed in time at respective trigger times with repetitive occurrences of each kind" – a 32-second segment of a continuous sound record is broken into a number (say 4) of equal segments; the segments can be played back as: {1, 2, 3, 4, 1, 2, 3, 4 . . . , etc.} (column 4, line 64 to column 5, line 12); Random Signal Generator 303 and Clock 311 provide signals to Digital Sound Generator 306 to control when random sound effects are played (column 11, lines 20 to column 12, line 17); signals from Random Signal Generator 303 and Clock 311 act as "trigger times";

"establishing respective time distributions for the trigger times of at least some of said kinds of sounds independent of their respective durations" – a Random Sequenced Sound (RSS) might choose to have the next segment to be played from a Uniform distribution, with an equal number of 1's, 2's, 3', and 4's in a random sequence; or RSS

might choose the segments from a Weighted Uniform distribution that might play as {1, 4, 1, 1, 3, 1, 1, 2, 2, 1, 1, 1 . . . etc.} (column 5, lines 13 to 30); implicitly, a random sound effect is "independent of their respective durations" because the overall duration of sound effect is fixed in a library of sound effects, but a time distribution for insertion is random (column 7, line 55 to column 8, line 5);

"combining said simpler sound events into said complex sound" – Random Sequenced Sound is generated by selecting, playing, and repeating sound segments (column 2, lines 59 to 67).

Regarding independent claim 50, *Severson et al. ('431)* discloses a method of synthesizing sound, comprising:

"generating a succession of simpler sound events that are distributed in time at respective trigger times that are independent of the respective durations of said sound events" – a 32-second segment of a continuous sound record is broken into a number (say 4) of equal segments; the segments can be played back as: {1, 2, 3, 4, 1, 2, 3, 4 . . . , etc.} (column 4, line 64 to column 5, line 12); a Random Sequenced Sound (RSS) might choose to have the next segment to be played from a Uniform distribution, with an equal number of 1's, 2's, 3', and 4's in a random sequence as {1, 3, 2, 4, 2, 2, 2, 4, 1, 3 . . . etc.}; or RSS might choose the segments from a Weighted Uniform distribution that might play as {1, 4, 1, 1, 3, 1, 1, 2, 2, 1, 1, 1 . . . etc.} (column 5, lines 13 to 30); Random Signal Generator 303 and Clock 311 provide signals to Digital Sound Generator 306 to control when random sound effects are played (column 11, lines 20 to

column 12, line 17); signals from Random Signal Generator 303 and Clock 311 act as "trigger times"; implicitly, a random sound effect is "independent of their respective durations" because the overall duration of sound effect is fixed in a library of sound effects, but a time distribution for insertion is random (column 7, line 55 to column 8, line 5);

"controlling said simpler sound events in accordance with one or more sound event parameters" – memory 403 contains sound records and programming for performing functions of sound record selection based on an overall "story line" that defines the theme to be played out; a software language allows for definitions of instructions for the Random Sequenced Sound (RSS) programs (column 12, lines 54 to 67); a line of program code may be "002 PlayRecord (Random3, 12)" where "Random3" indicates the kind of probability function that is used on "Group 12" recordings (column 13, lines 8 to 13);

"selecting the values of said sound event parameters in accordance with respective input parameters having random distributions" – each distribution would have a set of arguments to define its characteristics; for instance, a Gaussian distribution would be defined by its mean and standard deviation; kinds of probability functions are 1. Gaussian, 2. chi-squared, 3. uniform etc. (column 13, line 8 to 21).

Regarding claims 2 and 36, *Severson et al. ('431)* discloses a uniform distribution having on average an equal number of 1's, 2's, 3's, and 4's in a long sequence (column

5, lines 12 to 21); if the number and kinds of segments are uniform over a long sequence, then the average rate of each segment is constant.

Regarding claims 3 and 37, *Severson et al. ('431)* discloses that to further increase the depth and realism of continuous sound animation it is possible to have one or more aspects of the sound generation and sequencing be responsive to various events or inputs; examples of events to which responsiveness might be appropriate are the passage of time, the coincidence with some other sound effect, or a control signal received from another RSS/LSS sound unit; the idea is that some aspect of the sound generation changes (such as the frequency of use of a sound segment) (column 8, line 62 to column 9, line 16).

Regarding claims 4 and 38, *Severson et al. ('431)* discloses both uniform distributions (column 5, lines 12 to 21) and event-responsive RSS or LSS (column 8, line 62 to column 9, line 16).

Regarding claim 9, *Severson et al. ('431)* discloses segments can be played back as: {1, 2, 3, 4, 1, 2, 3, 4 . . . , etc.} (column 4, line 64 to column 5, line 12); a fixed, ordered sequence 1, 2, 3, 4 provides "a predetermined distribution for at least some of said kinds of sounds."

Regarding claims 10, 24, 28, and 44 to 46, *Severson et al. ('431)* discloses that to further increase the depth and realism of continuous sound animation it is possible to have one or more aspects of the sound generation and sequencing be responsive to various events or inputs; examples of events to which responsiveness might be appropriate are the passage of time, the coincidence with some other sound effect, or a

control signal received from another RSS/LSS sound unit; the idea is that some aspect of the sound generation changes (such as the frequency of use of a sound segment) (column 8, line 62 to column 9, line 16).

Regarding claim 11, *Severson et al. ('431)* discloses a uniform distribution having an equal number of 1's, 2's, 3's and 4's played as {1, 3, 2, 4, 2, 2, 2, 4, 1, 3, 4 . . . etc.} (column 5, lines 12 to 21); time delays between each kind of segment is according to a probability distribution being selected as a uniform distribution beforehand.

Regarding claims 12 and 30, *Severson et al. ('431)* discloses the functions of random generation may be programmed by a user (column 12, lines 54 to 67).

Regarding claims 13, 25, and 26, *Severson et al. ('431)* discloses line code for a program defines parameters "(Random3, 12)" or "Random 1(m,s)" for a kind of probability function, mean, and standard deviation (column 13, lines 6 to 21).

Regarding claims 14 and 39, *Severson et al. ('431)* discloses music rhythm synthesis, where rhythm notes may have a random aspect to the specific note (such as volume, pitch or timbre) (column 9, lines 52 to 59).

Regarding claims 15 to 18, 21 to 23, and 40 to 43, *Severson et al. ('431)* discloses line code for a program defines parameters "(Random3, 12)" or "Random 1(m,s)" for a kind of probability function, mean, and standard deviation; each distribution would have a set of arguments to define its characteristics; for instance, a Gaussian distribution would be defined by its mean and standard deviation; kinds of probability functions are "1. Gaussian, 2. chi-squared, 3. uniform etc." (column 13, lines 6 to 21).

Regarding claim 29, *Severson et al. ('431)* discloses producing sound effects for games (column 3, line 44; column 8, line 62 to column 9, line 16).

Regarding claim 31 and 32, *Severson et al. ('431)* discloses line code for a program defines parameters "(Random3, 12)" or "Random 1(m,s)" for a kind of probability function, mean, and standard deviation; mean "m" or standard deviation "s" may be specified as preset values or they may be computed or selected based on the present state of the program (column 13, lines 6 to 21); a mean of a probability distribution is a "predetermined average value"; if a mean is computed based on the present state of the program, then the mean is "varied during the course of generating a complex sound event."

Regarding claim 33, *Severson et al. ('431)* discloses sound events are stored in Sound Record Memory 307 (column 11, lines 52 to 65: Figure 3); synthesizing sound from a digital memory is equivalent to "a digital wavetable synthesizer."

Regarding claim 34, *Severson et al. ('431)* discloses microprocessor 401 is connected through internal D/A 405 and A/D 406 (column 12, lines 22 to 36: Figure 4); A/D converter 406 allows external analog signals to be applied directly to microprocessor 401 for analog control of its behavior (column 12, lines 51 to 53); synthesizing sounds under control of an analog signal is equivalent to "an analog sound synthesizer".

Regarding claims 47 and 48, similar considerations apply as independent claims 49 and 50, as noted above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Severson et al. ('431)* in view of *Borza et al.*

Severson et al. ('431) suggests Random Sequenced Sound (RSS) may be generated as a timing signal from a Random Signal Generator 303, where a random signal is based on noise generated in electrical circuitry. (Column 12, Lines 7 to 17) It is known that noise generated in electrical circuitry is white noise. However, *Severson et al. ('431)* omits establishing a random time distribution in accordance with white noise crossing a predetermined threshold. *Borza et al.* teaches a random number generator, where noise values above a predetermined value are defined as "1" bits while those values below a predetermined value are defined as "0" bits. White noise is used to produce "1" and "0" bit values. (Column 6, Lines 20 to 31; Column 7, Lines 41 to 67: Figures 4a to 4e) It is suggested that a random number generator based on white noise compared to a predetermined value has an advantage of providing a cost effective means of generating a random number. (Column 2, Lines 39 to 42). It would have been obvious to one having ordinary skill in the art to provide a random noise generator based upon comparing white noise to predetermined values as taught by *Borza et al.* in

the method of synthesizing sound of *Severson et al. ('431)* for the purpose of cost effectively generating random numbers.

5. Claims 19, 20, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Severson et al. ('431)* in view of *Severson et al. ('318)*.

Severson et al. ('431) discloses selecting probability distributions as program code for "Random 1(m,s)", defining "m" as a desired mean and "s" as a desired standard deviation. (Column 13, Lines 14 to 21) However, *Severson et al. ('431)* omits user selectable minimum and maximum values for parameters, where a random parameter value is selected if a parameter value does not fall within maximum and minimum values. *Severson et al. ('318)* teaches a detect counter for resetting when a predetermined minimum or maximum is reached (column 13, line 54 to column 14, line 2), and where a random mode is triggered when a count is less than a predetermined minimum value (column 15, lines 46 to column 16, line 6). It is suggested that providing a voice selection mode as random or triggered varies cow sounds between quiet and contented or progressively more agitated as motion is detected. (Column 3, Lines 18 to 30) It would have been obvious to one having ordinary skill in the art to provide minimum and maximum parameter values to set a random parameter as taught by *Severson et al. ('318)* in the method to synthesize sound of *Severson et al. ('431)* for the purpose of varying sounds in response to motion.

Allowable Subject Matter

6. Claims 6 to 8 are allowed.

Response to Arguments

7. Applicants' arguments filed 22 June 2005 have been fully considered but they are not persuasive.

Firstly, Applicants argue that the invention is distinguished over *Severson et al. ('431)* because, in the preferred embodiment, the time distributions of sounds are random and independent of the duration of the events. This is not persuasive for the following reasons.

Independent claims 1 and 35 do not contain the limitation that the distributions of sounds are independent of the duration of the events. Only claims 47 to 50 contain the limitation. Thus, even if *Severson et al. ('431)* did not disclose distributions of sounds that are independent of the duration of the events, the limitation, and Applicants' arguments thereto, would be irrelevant to independent claims 1 and 35.

Moreover, *Severson et al. ('431)* does disclose sound effects having random distributions that are independent of the duration of the events. An example is the sound of a cow mooing. A segment duration of a cow mooing sound effect in a library of sound effects is fixed. (Column 7, Line 55 to Column 8, Line 29) *Severson et al. ('431)* clearly discloses that the occurrences of the sounds have random distributions. (Note the title of *Severson et al. ('431)* includes "random sequencing" and the abstract provides for an algorithm that may be a simple random distribution or a pseudo-random

distribution.) There are a variety of cow moos in a library of sound effects, but a duration for a sound effect of a cow mooing is not in any way disclosed to depend upon a time distribution insertion of cow mooing effects by *Severson et al. ('431)*. The overall duration of a cow mooing sound effect is fixed as given in a library of sound effects, and does not in any manner depend upon how frequently a cow mooing sound effect is inserted into a composite sound.

Secondly, Applicants cite sections from *Severson et al. ('431)* disclosing sound effects that are continuous, and imply that the sound effects are not continuous in the invention. This is not persuasive.

The fact that the combined sounds may be continuous in *Severson et al. ('431)* does not provide a patentable distinction. The limitation of non-continuous sound events is not a positive limitation of any of independent claims 1, 35, 49, and 50. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, there is no evident distinction between what is continuous and what is discrete in this context. *Severson et al. ('431)* discloses digital sequences of sound effects generated by a Digital Sound Generator 306. (Column 11, Lines 20 to 51: Figure 3) While the overall sound sequence is continuous in *Severson et al. ('431)*, individual sound effects are produced as discrete digital sound segments.

Thirdly, Applicants maintain that the invention has sound events generated with a random time distribution, while the time distribution is non-random for *Severson et al. ('431)*.

This position is clearly false. *Severson et al. ('431)* repeatedly refers to sound events having random or pseudo-random distributions. (See Title, Abstract, and Summary of the Invention)

Finally, Applicants argue that new independent claims 49 and 50, as well as claims 47 and 48, add the explicit requirement that the random time distributions are independent of the durations of the sound events.

However, as noted, *Severson et al. ('431)* does disclose sound effects having distributions that are independent of the duration of the events. One example is the sound of a cow mooing. A segment duration of a cow mooing sound effect in a library of sound effects is fixed. (Column 7, Line 55 to Column 8, Line 29) There are a variety of cow mooing sounds in a library of sound effects, but a duration for a sound effect of every cow mooing sound effect is not in any way disclosed to depend upon a time distribution insertion of cow mooing effects by *Severson et al. ('431)*. The overall duration of a cow mooing sound effect is fixed as given in a library of sound effects, and does not in any manner depend upon how frequently a cow mooing sound effect is inserted into a composite sound.

Therefore, the rejections of claims 1 to 4, 9 to 18, 21 to 26, and 28 to 50 under 35 U.S.C. §102(b) as being anticipated by *Severson et al. ('431)*, of claim 5 under 35 U.S.C. §103(a) as being unpatentable over *Severson et al. ('431)* in view of *Borza et al.*, and of claims 19, 20, and 27 under 35 U.S.C. 103(a) as being unpatentable over *Severson et al. ('431)* in view of *Severson et al. ('318)*, are proper.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML
7/28/05

Martin Lerner
Examiner
Group Art Unit 2654